The PRO 80 and 90 series dual-wavelength infrared thermometers have been designed specifically with hostile operating conditions and low and variable target emissivity in mind. They are highly recommended for the measurement of low- or variable-emissivity materials, for measurement through optical obstructions, and for measurement of small or wandering targets.

Able to measure temperature, emissivity, and signal dilution, dual-wavelength sensors are available in a camera style or fibre optic configuration. The fibre optic sensors are available with a wide range of fibre cable sheathing ranging from the 1.3 mm diameter monofilament to the 44.5 mm diameter Armour Guard system.

Perhaps the most significant technical features associated with the PRO series dual-wavelength sensors are the industry-leading signal dilution capability and the ability to measure and utilise emissivity and signal dilution values through advanced signal conditioning. These features allow the PRO sensors to provide unequalled performance and functionality over a broad range of applications.
GENERAL SPECIFICATIONS - Continued

Accuracy
0.25% to 0.5% of Reading or 2°C (varies by model)

Repeatability
Better than 1°C

Response Time
Constant Target: 50 ms (sensor); 100 ms (interface module)
Intermittent Target: 200 ms (98% of Reading - 4τ)

CE Certification
EMI / RFI for heavy industry; LVD (Low Voltage Directive)

Ambient Temperature Limits
Sensor Head:
- PRO 81 & 91: -17 to 60°C
- PRO 82 & 92: -17 to 50°C

Interface Module:
50°C

Sensor w/ Water Cooling:
95-175°C (varies with water rate and temperature)

Fibre Optic Assembly:
200°C

Input Power
Stand-alone Sensor:
24 V DC (300 mA);

With Interface Module:
90-260 V AC, 50/60 Hz

Input and Output Signals

Stand-alone Configuration: Analogue Mode
- 4-20 mA or 0-20 mA (1000 Ω max. impedance. Shunt resistors produce voltage outputs.)
- TTL Alarm with 2 mA at 5 V DC rating
- External Peak Hold Reset
- Select parameter, scale, & range of output & alarm

Digital Mode
- Bi-directional RS485 communications
- RS232 with a converter
- Used to connect to the Interface Module

System Configuration with Interface Module:

2 Programmable Analogue Outputs
- 4-20 mA or 0-20 mA (1000 Ω max. impedance. Shunt resistors produce voltage outputs.)
- Select parameter, scale, and range

3 Analogue Inputs
- Sample and Hold
- External Peak Hold Reset
- Analogue input for remote parameter adjustments

Bi-directional Serial Communications
- RS232 and RS485 simultaneously

2 Programmable Relay Alarms
- Form C (4 A at 250 V AC or 2.5 A at 30 V DC)
- Select alarm parameter and set point

1 Programmable TTL Alarm
- TTL rating is 2 mA at 5 V DC
- Select alarm parameter and set point

Programmable Output and Alarm Parameters
- Filtered Temperature, Unfiltered Temperature, Ambient Temperature, Signal Dilution, and Signal Strength / Emissivity

Signal Conditioning
- Average Time, Peak Hold Delay, Temperature Scale (°F/°C) Adjustment, Slope Adjustment

Status Messages
- Out of Range, Ambient Warning, Check Sensor Cable, and Aiming System Status (optional)

Diagnostics
- System Test, Analogue Output Tests, Alarm Tests, Menu Access/Security

Enclosure Rating
- Sensor: IP65 - Coated Aluminium Casting
- Interface Module: IP52 front panel - Anodised Aluminium Housing

Dimensions
- Sensor: 229 mm x 140 mm x 152 mm
- Interface Module: 178 mm x 96 mm x 96 mm

Weight
- Sensor: 3.4 kg
- Interface Module: 1 kg

PRO SERIES OPTIONS AND ACCESSORIES

IM
Programmable Interface Module (see above)

25/25S/25RS
PID Controllers with Power Supply, 4-20 mA Output, and Signal Conditioning Options

PS
Power Supply for Stand Alone Sensors 24 V DC (700 mA) to 90-260 V AC (50/60 Hz)

AP
Air Purge

WCAP
Water Cooling Air Purge

SB
Swivel Bracket

LA
Laser Aiming (For PRO 80 Series only)

AL
Aim Light (For PRO 90 Series only)

Cable Sheathings
- Armour Guard (AG), Stainless Steel Braid (SSB), Gooseneck (GN) (For PRO 90 Series only)

Water Cooling Option:
- 1/4" NPT thread, supplied with fittings for 1/4" tubing (1-5 gph)

Rated for NEMA 4X (IP65)
Corrosion Resistant